

AMENDMENTS TO THE DRAWINGS

The attached sheet of drawings includes a change to Figure 2. This sheet, which includes Figure 2, replaces the original sheet including Figure 2. In Figure 2, previously marked 20 has been changed to 21. Corresponding changes have been made in the specification at paragraph [00026].

Attachment: Replacement Sheet

REMARKS

Claims 1-97 are pending in the present application. By this amendment, claims 1-97 have been cancelled, and claims 98-150 have been added. Accordingly, claims 98-150 are currently under consideration. Applicant respectfully submits that these claims are allowable.

Objections to Specification and Drawings

The specification and drawings stand objected to because of certain informalities. Appropriate amendments have been made. Applicant respectfully requests that the above-cited objections be withdrawn.

Claim Rejections Under 35 USC § 112

Claims 1-97 stand rejected under 35 U.S.C § 112, first paragraph, as containing subject matter that was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

According to the Office Action, the limitation “*deriving a corresponding distribution function*” or “*derive a corresponding distribution function*” is not enabled because, for Example 1, “the total ‘Number in Bin’ in each of FIGS. 3-9A is greater than 123.”

Applicant respectfully traverses this rejection as applied to the claims currently under consideration.

The Examiner has the burden to show a lack of enablement. (MPEP 2164.04) This requires analysis of factors related to “undue experimentation”, where “[i]t is improper to conclude that a disclosure is not enabling based on an analysis of only one the above factors while ignoring one or more of the others.” (MPEP 2164.01(a)) With respect to the above-cited rejection, this burden has not been satisfied. The Examiner has not shown how the exact total number of bin items is substantially different from the indicated number in a way that would require “undue

experimentation.” Arguably, the exact total number of bin items is unimportant for the purposes of this example.

Applicant submits that the description “is sufficient to permit those skilled in the art to make and use the invention.” (MPEP 2164) “A patent need not teach, and preferably omits, what is well known in the art.” (MPEP 2164.01) Further, “Pictures may constitute an enabling disclosure.” (MPEP 2121.04)

Applicant respectfully requests that the above-cited rejection under 35 U.S.C § 112, first paragraph, be withdrawn.

Claims 11, 12, 18-31, 37, 38, 40, 42, 43, 46, 49-64, 70, 71, 73, 75, 76, 79, 80, and 82-97 stand rejected under 35 U.S.C § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. These claims have been cancelled.

Applicant respectfully requests that the above-cited rejection under 35 U.S.C § 112, second paragraph, be withdrawn.

Claim Rejections Under 35 USC § 101

Claims 1-97 stand rejected under 35 USC § 101 because the inventions as disclosed in claims are directed to non-statutory subject matter. Claims 1-97 have been cancelled.

Applicant respectfully requests that the above-cited rejection under 35 USC § 101 be withdrawn.

Claim Rejections Under 35 USC § 102 and 35 USC § 103

Claims 1-2, 6-13, 15-18, 21-24, 26-27, 29-33, 37-44, 46-49, 52-55, 57-60, 62-66, 70-77, 79-82, 85-88, 90-93, and 95-97 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Newman (“Model Reduction via the Karhunen-Loeve Expansion Part I: An Exposition”, Institute

for Systems Research and Electrical Engineering Department, University of Maryland, April 1996, pages 1-19). Claims 3-5, 14, 19-20, 25, 28, 34-36, 45, 50-51, 56, 61, 67-69, 78, 83-84, 89, and 94 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Newman in view of Brown (U.S. Patent No. 5,956,501, issued September 21, 1999). These claims have been cancelled. Applicant respectfully requests that the above-cited rejections under 35 USC § 102 and 35 USC § 103 be withdrawn.

Applicant respectfully submits that the newly submitted claims are allowable over the cited references and all references of record.

With respect to claim 98, Newman does not disclose *“determining, from the sample data sets, a plurality of values for one or more mathematical parameters corresponding to one or more basis functions for the continuous mathematical model”* and *“determining, from the values for the one or more mathematical parameters, one or more distribution-function parameters for specifying one or more distribution functions for the one or more mathematical parameters.”*

The Examiner has cited the “empirical data flow” at page 14, sec. 3.5, of Newman for the *“selecting a sample data set from each subject in the subject group”* (in claim 1) and “time-dependent random variables” at page 8, paragraph 3, of Newman for *“deriving a corresponding distribution function for each of said mathematical parameters”* (in claim 1). However, there is no disclosed connection between the “empirical data flow” (page 14) and the “time-dependent random variables” (page 8) with applicability to *“one or more distribution functions for the one or more mathematical parameters”* as claimed in claim 98.

In Newman, the disclosure of “empirical data flow” (page 14) relates to an approximation of a spatial correlation function (equation 25) that is used to determine empirical eigenfunctions (equation 30). Although these eigenfunctions may be considered as *“basis functions”*, there is no disclosed connection between this “empirical data flow” (page 14) and values for coefficients of *“basis functions.”* Notably, Newman does disclose an application to Galerkin’s method (page 16, section 3.6) as applied to PDEs (partial differential equations) with a “separation

of variables solution” in terms of the eigenfunctions (page 16, bottom of page); however, this solution approach leads to differential equations (not “*distribution functions*”) for the coefficients $a_i(t)$ (page 17, bottom of page).

With respect to claim 111, Brown does not disclose “*one or more hybrid functions that characterize features common to the subject group over a continuous interval.*” The Examiner has cited the equation at col. 2, line 49, of Brown for a “Hybrid expansion” (in claim 3), but clearly this equation is a discrete-time model and does not “*characterize features common to the subject group over a continuous interval.*” Further, it is not apparent how one motivates (or carries out) a modification of the disclosure of Newman according to the disclosure of Brown to achieve the present invention.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 071882000200. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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Respectfully submitted

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